Amendments to the Claims

1. Claim 1 (currently amended): A solid-chemical composition that provides a sustained-release of active oxygen and complex inorganic phosphates, comprising a dry mixture of discrete particles of:
   a. A solid-chemical source of active oxygen from about 20% to 99% by weight percent of said composition; and
   b. at least two complex inorganic phosphates selected from the group consisting of ringed metaphosphates and linear polyphosphates and any combinations thereof whereby the total amount of said complex phosphates is in the range of from about 1% to 80% by weight percent of said composition.

2. Claim 2 (previously amended): The solid-chemical composition of Claim 1, whereby said solid-chemical source of active oxygen is one or more selected from the group consisting of calcium peroxide and magnesium peroxide.

3. Claim 3 (canceled): The solid-chemical composition of Claim 1, whereby said complex inorganic phosphates are further selected from one or more of the group consisting of ringed metaphosphates and linear polyphosphates and any combinations thereof.

4. Claim 4 (previously amended): The solid-chemical composition of Claim 1, whereby said complex inorganic phosphates are one or more selected from the group consisting of sodium hexametaphosphate, sodium trimetaphosphate, sodium tripolyphosphate, sodium-potassium tripolyphosphate, tetrasodium polyphosphate and any combinations thereof.

5. Claim 5 (previously amended): The solid-chemical composition of Claim 1, further comprising a source of inorganic nitrogen from about 0.1% to 10% by weight percent of the composition.

6. Claim 6 (previously amended): The solid-chemical composition of Claim 1, further comprising an ammonium-free source of inorganic nitrogen being one or more selected from the group consisting of sodium nitrate, sodium-potassium nitrate, potassium nitrate, other soluble salts of nitrate , from about 0.1% to 10% by weight percent of said composition..

7. Claim 7 (previously amended): The solid-chemical composition of Claim 1, further comprising a simple inorganic orthophosphate, from about 0.1% to 35% by weight percent of said composition.

8. Claim 8 (previously amended): The solid-chemical composition of Claim 1, further comprising a simple inorganic orthophosphate being one or more selected from the group consisting of sodium phosphate, calcium phosphate, potassium phosphate, and sodium-potassium phosphate, from about 0.1% to 35% by weight percent of said composition.

9. Claim 9 (previously amended): The solid-chemical composition of Claim 1, further comprising an organic disintegrant, from about 0.01% to 5% by weight percent of said composition.

10. Claim 10 (previously amended): The solid-chemical composition of Claim 1, further comprising an organic disintegrant being one or more selected from the group consisting of pre-gelled starch, powdered molasses, granulated sugar, sodium starch glycolate, crosscarmelose of sodium, and crospovidone, from about 0.01% to 5% by weight percent of said composition.

11. Claim 11 (previously amended): The solid-chemical composition of Claim 1, further comprising an inorganic disintegrant, from about 0.05% to 10% by weight percent of said composition.

12. Claim 12 (previously amended): The solid-chemical composition of Claim 1, further comprising an inorganic disintegrant being one or more selected from the group consisting of bentonite, montmorillonite, kaolinite, and other clay minerals, from about 0.05% to 10% by weight percent of said composition.

13. Claim 13 (previously amended): The solid-chemical composition of Claim 1, further comprising an inorganic buffer, from about 0.5% to 60% by weight percent of said composition.

14. Claim 14 (previously amended): The solid-chemical composition of Claim 1, further comprising an inorganic buffer being one or more selected from the group consisting of calcium carbonate, lime, limestone, siderite and ferrous carbonate, rhodochrosite and manganese carbonate, calcium phosphate, sodium bicarbonate, portland cement, metal oxides, metal hydroxides, and metal oxyhydroxides, from about 0.5% to 60% by weight percent of said composition.

15. Claim 15 (previously amended): The solid-chemical composition of Claim 1, further comprising a metal catalyst for chemical-oxidation reactions, from about 0.25% to 25% by weight percent of said composition.

16. Claim 16 (previously amended): The solid-chemical composition of Claim 1, further comprising a metal catalyst being one or more selected from the group consisting of ferrous sulfate and other soluble salts of ferrous iron, from about 0.25% to 25% by weight percent of said composition.

17. Claim 17 (previously amended): The solid-chemical composition of Claim 1, further comprising a lubricant, from about 0.01% to 1.5% by weight percent of said composition.

18. Claim 18 (previously amended): The solid-chemical composition of Claim 1, further comprising a lubricant being one or more selected from the group consisting of magnesium stearate, calcium stearate and other stearates, stearic acid, sodium stearyl fumarate, hydrogenated vegetable oil, silicone, talc, and corn starch, from about 0.01% to 1.5% by weight percent of said composition.

19. Claim 19 (canceled): The solid-chemical composition of Claim 1, which further includes a source of dehydrated, dried and freeze-dried inoculum for biological organisms, microorganisms and fungi selected from one or more of the group consisting of inoculum for aerobic bacteria; facultative bacteria; other bacteria capable of using oxygen as a terminal electron acceptor for any biogeochemical process; denitrifying bacteria; mycoplasmas; white-rot fungi, brown-rot fungi and other multicellular fungi; yeasts; and any combinations thereof, from about 0.0001% to 0.5% by weight of the composition.

20. Claim 20 (canceled): The solid-chemical composition of Claim 19, whereby said inoculum for biological organisms, microorganisms and fungi are further selected from one or more of the group consisting of yellow boy, *Bacillus* spp., *Rhizobium* spp., *Bradyrhizobium* spp., *Fibrobacter* spp., *Clostridium* spp. *Pseudomonas* spp., *Geobacter* spp., *Arthrobacter* spp., *Nocardia* spp., *Aspergillus* spp., *Trichoderma* spp., *Candida* spp., *Yarrowia* spp., *Piptoporous* spp., *Serpula* spp., *Coriolus* spp., *Phanerochaete* spp., *Pleurotus* spp., *Sporotrichum* spp., *Bjerkandera* spp., and *Trametes* spp., and any combinations thereof.

21. Claim 21 (previously amended): A solid-chemical composition which provides a sustained-release of active oxygen and complex inorganic phosphates, comprising:

    a. A solid-chemical source of active oxygen being one or more selected from the group consisting of calcium peroxide and magnesium peroxide, from about 57% to 95% by weight percent of said composition;

    b. Sodium hexametaphosphate, being a complex inorganic phosphate, from about 0.25% to 25% by weight percent of said composition;

c. Sodium trimetaphosphate, being a complex inorganic phosphate, from about 0.25% to 25% by weight percent of said composition;

d. Pre-gelled starch, being an organic disintegrant, from about 0.1% to 4% by weight percent of said composition;

e. Magnesium stearate, being a lubricant, from about 0.05% to 1% by weight percent of said composition.

22. Claim 22 (previously amended): The solid-chemical composition of Claim 21, further comprising another complex inorganic phosphate being one or more selected from the group consisting of sodium tripolyphosphate, sodium-potassium tripolyphosphate, and tetrasodium polyphosphate, from about 0.1% to 15% by weight percent of said composition.

23. Claim 23 (previously amended): The solid-chemical composition of Claim 21, further comprising a source of inorganic nitrogen from about 0.1% to 5% by weight percent of said composition.

24. Claim 24 (previously amended): The solid-chemical composition of Claim 21, further comprising an ammonium-free source of inorganic nitrogen being one or more selected from the group consisting of sodium nitrate, sodium-potassium nitrate, potassium nitrate, and other soluble salts of nitrate, from about 0.1% to 5% by weight percent of said composition.

25. Claim 25 (previously amended): The solid-chemical composition of Claim 21, further comprising a simple inorganic orthophosphate, from about 0.1% to 20% by weight percent of said composition.

26. Claim 26 (previously amended): The solid-chemical composition of Claim 21, further comprising a simple inorganic orthophosphate being one or more selected from the group consisting of sodium phosphate, calcium phosphate, potassium phosphate, and sodium-potassium phosphate, from about 0.1% to 20% by weight percent of said composition.

27. Claim 27 (previously amended): The solid-chemical composition of Claim 21, further comprising another organic disintegrant being one or more selected from the group consisting of powdered molasses, granulated sugar, sodium starch glycolate, crosscarmelose of sodium, and crospovidone, from about 0.01% to 1% by weight percent of said composition.

28. Claim 28 (previously amended): The solid-chemical composition of Claim 21, further comprising an inorganic disintegrant, from about 0.05% to 10% by weight percent of said composition.

29. Claim 29 (previously amended): The solid-chemical composition of Claim 28, further comprising an inorganic disintegrant being one or more selected from the group consisting of bentonite, montmorillonite, kaolinite, and other clay minerals, from about 0.05% to 10% by weight percent of said composition.

30. Claim 30 (previously amended): The solid-chemical composition of Claim 21, further comprising an inorganic buffer, from about 0.5% to 30% by weight percent of said composition.

31. Claim 31 (previously amended): The solid-chemical composition of Claim 21, further comprising an inorganic buffer being one or more selected from the group consisting of calcium carbonate, lime, limestone, siderite and ferrous carbonate, rhodochrosite and manganese carbonate, calcium phosphate, sodium bicarbonate, portland cement, metal oxides, metal hydroxides, and metal oxyhydroxides, from about 0.5% to 30% by weight percent of said composition.

32. Claim 32 (previously amended): The solid-chemical composition of Claim 21, further comprising a metal catalyst for chemical-oxidation reactions, from about 0.25% to 15% by weight percent of said composition.

33. Claim 33 (previously amended): The solid-chemical composition of Claim 21, further comprising a metal catalyst being one or more selected from the group consisting of ferrous sulfate and other soluble salts of ferrous iron, from about 0.25% to 15% by weight percent of said composition.

34. Claim 34 (previously amended): The solid-chemical composition of Claim 21, further comprising another lubricant being one or more selected from the group consisting of calcium stearate and other stearates, stearic acid, sodium stearyl fumarate, hydrogenated vegetable oil, silicone, talc, and corn starch, from about 0.01% to 1% by weight percent of said composition.

35. Claim 35 (canceled): The solid-chemical composition of Claim 21, which further includes a source of dehydrated, dried and freeze-dried inoculum for biological organisms, microorganisms and fungi selected from one or more of the group consisting of inoculum for aerobic bacteria; facultative bacteria; other bacteria capable of using oxygen as a terminal electron acceptor for any biogeochemical process; denitrifying bacteria; mycoplasmas; white-rot fungi, brown-rot fungi and other multicellular fungi; yeasts; and any combinations thereof, from about 0.0001% to 0.5% by weight of the composition.

36. Claim 36 (canceled): The solid-chemical composition of Claim 35, whereby said inoculum for biological organisms, microorganisms and fungi are further selected from one or more of the group consisting of yellow boy, *Bacillus* spp., *Rhizobium* spp., *Bradyrhizobium* spp., *Fibrobacter* spp., *Clostridium* spp. *Pseudomonas* spp., *Geobacter* spp., *Arthrobacter* spp., *Nocardia* spp., *Aspergillus* spp., *Trichoderma* spp., *Candida* spp., *Yarrowia* spp., *Piptoporous* spp., *Serpula* spp., *Coriolus* spp., *Phanerochaete* spp., *Pleurotus* spp., *Sporotrichum* spp., *Bjerkandera* spp., and *Trametes* spp., and any combinations thereof.

37. Claim 37 (previously amended): The solid-chemical composition of Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, or 18, whereby said composition is prepared in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof.

38. Claim 38 (previously amended): The solid-chemical composition of Claim 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, or 34, whereby said composition is prepared in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof.

39. Claim 39 (canceled): A method for the non-exothermic chemical oxidation of organic and inorganic chemical contaminants in solid and liquid wastes, sludges, leachates, acid-mine drainages, waste waters, soils, sediments, ground waters, and surface waters, and any combinations thereof, whereby a solid-chemical source of active oxygen selected from one

or more of the group consisting of calcium peroxide and magnesium peroxide, and any combinations thereof, is applied to said media.

40. Claim 40 (canceled): The method of Claim 39 whereby said solid-chemical source of active oxygen is applied in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof.

41. Claim 41 (canceled): A method for both the non-exothermic chemical-oxidation and aerobic bioremediation of organic and inorganic chemical contaminants in solid and liquid wastes, sludges, leachates, acid-mine drainages, waste waters, soils, sediments, ground waters, and surface waters, and any combinations thereof, whereby a solid-chemical source of active oxygen selected from one or more of the group consisting of calcium peroxide and magnesium peroxide, and any combinations thereof, is applied to said media.

42. Claim 42 (canceled): The method of Claim 41 whereby said solid-chemical source of active oxygen is applied in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof.

43. Claim 43 (canceled): A method for the non-exothermic chemical-oxidation and aerobic bioremediation of organic and inorganic chemical contaminants in liquid and aqueous wastes, leachates, acid-mine drainages, waste waters, ground waters, and surface waters, and any combinations thereof, whereby a solid-chemical source of active oxygen in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof, is used in such a manner whereas the intrinsic permeability of said granules, briquettes, tablets, capsules, pellets, and any combinations thereof, enhances the flow of said liquid wastes and media through said granules, briquettes, tablets, capsules, pellets, and any combinations thereof, to promote the treatment of said liquid wastes and media.

44. Claim 44 (canceled): A method for the fungal biodegradation of recalcitrant organic contaminants in solid, industrial and hazardous wastes, sludges, wood and wood chips, saw dust, soils, and sediments, and any combinations thereof, whereby a solid-chemical source of active oxygen is applied to said media to promote the growth and enzymatic activity of white-rot fungi, brown-rot fungi and other aerobic fungi and yeast, and any combinations thereof.

45. Claim 45 (canceled): The method of Claim 44 whereby said solid-chemical source of active oxygen is selected from one or more of the group consisting of calcium peroxide, magnesium peroxide, and any combinations thereof.

46. Claim 46 (canceled): The method of Claim 44 whereby said solid-chemical source of active oxygen is applied in the form of granules, briquettes, tablets, capsules, pellets, and any combinations thereof.

47. Claim 47 (canceled): The method of Claim 44 whereby said fungi and yeast are selected from one or more of the group comprising *Aspergillus* spp., *Trichoderma* spp., *Candida* spp., *Yarrowia* spp., *Piptoporous* spp., *Serpula* spp., *Coriolus* spp., *Phanerochaete* spp., *Pleurotus* spp., *Sporotrichum* spp., *Bjerkandera* spp., and *Trametes* spp., and any combinations thereof.